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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/759,508B

DATE: 10/01/2001

TIME: 13:55:46

Input Set : A:\patentin00786.381002.txt

Output Set: N:\CRF3\10012001\I759508B.raw

ENTERED

3 <110> APPLICANT: Fishman, Mark C.
5 <120> TITLE OF INVENTION: Methods for Diagnosing and Treating Heart Disease
7 <130> FILE REFERENCE: 00786/381002
9 <140> CURRENT APPLICATION NUMBER: US 09/759,508B
10 <141> CURRENT FILING DATE: 2001-01-12
12 <150> PRIOR APPLICATION NUMBER: US 60/175,787
13 <151> PRIOR FILING DATE: 2000-01-12
15 <160> NUMBER OF SEQ ID NOS: 11
17 <170> SOFTWARE: PatentIn version 3.1
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 81940
21 <212> TYPE: DNA
22 <213> ORGANISM: Homo sapiens
24 <220> FEATURE:
25 <221> NAME/KEY: CDS
26 <222> LOCATION: (133)..(80910)
27 <223> OTHER INFORMATION:
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35 gtgcctagaa ag atg aca act caa gca ccg acg ttt acg cag ccg tta caa 171
36 Met Thr Thr Gln Ala Pro Thr Phe Thr Gln Pro Leu Gln
37 1 5 10
39 agc gtt gtg gta ctg gag ggt agt acc gca acc ttt gag gct cac att 219
40 Ser Val Val Val Leu Glu Gly Ser Thr Ala Thr Phe Glu Ala His Ile
41 15 20 25
43 agt ggt ttt cca gtt cct gag gtg agc tgg ttt agg gat ggc cag gtg 267
44 Ser Gly Phe Pro Val Pro Glu Val Ser Trp Phe Arg Asp Gly Gln Val
45 30 35 40 45
47 att tcc act tcc act ctg ccc ggc gtg cag atc tcc ttt agc gat ggc 315
48 Ile Ser Thr Ser Thr Leu Pro Gly Val Gln Ile Ser Phe Ser Asp Gly
49 50 55 60
51 cgc gct aaa ctg acg atc ccc gcc gtg act aaa gcc aac agt gga cga 363
52 Arg Ala Lys Leu Thr Ile Pro Ala Val Thr Lys Ala Asn Ser Gly Arg
53 65 70 75
55 tat tcc ctg aaa gcc acc aat gga tct gga caa gcg act agt act gct 411
56 Tyr Ser Leu Lys Ala Thr Asn Gly Ser Gly Gln Ala Thr Ser Thr Ala
57 80 85 90
59 gag ctt ctc gtg aaa gct gag aca gca cca ccc aac ttc gtt caa cga 459
60 Glu Leu Leu Val Lys Ala Glu Thr Ala Pro Pro Asn Phe Val Gln Arg
61 95 100 105
63 ctg cag agc atg acc gtg aga caa gga agc caa gtg aga ctc caa gtg 507
64 Leu Gln Ser Met Thr Val Arg Gln Gly Ser Gln Val Arg Leu Gln Val
65 110 115 120 125
67 aga gtg act gga atc cct aca cct gtg gtg aag ttc tac cgg gat gga 555
68 Arg Val Thr Gly Ile Pro Thr Pro Val Val Lys Phe Tyr Arg Asp Gly
69 130 135 140

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72 Ala Glu Ile Gln Ser Ser Leu Asp Phe Gln Ile Ser Gln Glu Gly Asp	
73 145 150 155	
75 ctc tac agc tta ctg att gca gaa gca tac cct gag gac tca ggg acc	651
76 Leu Tyr Ser Leu Leu Ile Ala Glu Ala Tyr Pro Glu Asp Ser Gly Thr	
77 160 165 170	
79 tat tca gta aat gcc acc aat agc gtt gga aga gct act tcg act gct	699
80 Tyr Ser Val Asn Ala Thr Asn Ser Val Gly Arg Ala Thr Ser Thr Ala	
81 175 180 185	
83 gaa tta ctg gtt caa ggt gaa gaa gaa gta cct gct aaa aag aca aag	747
84 Glu Leu Leu Val Gln Gly Glu Glu Glu Val Pro Ala Lys Lys Thr Lys	
85 190 195 200 205	
87 aca att gtt tcg act gct cag atc tca gaa tca aga caa acc cga att	795
88 Thr Ile Val Ser Thr Ala Gln Ile Ser Glu Ser Arg Gln Thr Arg Ile	
89 210 215 220	
91 gaa aag aag att gaa gcc cac ttt gat gcc aga tca att gca aca gtt	843
92 Glu Lys Lys Ile Glu Ala His Phe Asp Ala Arg Ser Ile Ala Thr Val	
93 225 230 235	
95 gag atg gtc ata gat ggt gcc gct ggg caa cag ctg cca cat aaa aca	891
96 Glu Met Val Ile Asp Gly Ala Ala Gly Gln Gln Leu Pro His Lys Thr	
97 240 245 250	
99 cct ccc agg att cct ccg aag cca aag tca aga tcc cca aca cca ccg	939
100 Pro Pro Arg Ile Pro Pro Lys Ser Arg Ser Pro Thr Pro Pro	
101 255 260 265	
103 tct att gct gcc aaa gca cag ctg gct cgg cag cag tcc cca tcg ccc	987
104 Ser Ile Ala Ala Lys Ala Gln Leu Ala Arg Gln Gln Ser Pro Ser Pro	
105 270 275 280 285	
107 ata aga cac tcc cct tcc ccg gtc aga cac gtg cgg gca ccg acc cca	1035
108 Ile Arg His Ser Pro Ser Pro Val Arg His Val Arg Ala Pro Thr Pro	
109 290 295 300	
111 tct ccg gtc agg tcc gtg tct cca gca gca aga atc tcc aca tcc ccc	1083
112 Ser Pro Val Arg Ser Val Ser Pro Ala Ala Arg Ile Ser Thr Ser Pro	
113 305 310 315	
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116 Ile Arg Ser Val Arg Ser Pro Leu Leu Met Arg Lys Thr Gln Ala Ser	
117 320 325 330	
119 acc gtg gcc aca ggt cct gaa gtg cct ccc cct tgg aag caa gag ggc	1179
120 Thr Val Ala Thr Gly Pro Glu Val Pro Pro Pro Trp Lys Gln Glu Gly	
121 335 340 345	
123 tac gtg gcc tcc tca tct gag gct gag atg aga gag aca acg ctg aca	1227
124 Tyr Val Ala Ser Ser Ser Glu Ala Glu Met Arg Glu Thr Thr Leu Thr	
125 350 355 360 365	
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128 Thr Ser Thr Gln Ile Arg Thr Glu Glu Arg Trp Glu Gly Arg Tyr Gly	
129 370 375 380	
131 gtc cag gag caa gtg acc atc agt ggt gct gcg ggt gct gcc gcc agt	1323
132 Val Gln Glu Gln Val Thr Ile Ser Gly Ala Ala Gly Ala Ala Ala Ser	
133 385 390 395	
135 gtg tcg gcc agt gct agc tac gca gca gag gct gtt gcc act ggt gct	1371

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139 aaa gag gtg aaa caa gat gct gac aaa agt gca gct gtt gcg act gtt      1419
140 Lys Glu Val Lys Gln Asp Ala Asp Lys Ser Ala Ala Val Ala Thr Val
141      415          420          425
143 gtt gct gcc gtt gat atg gcc aga gtg aga gaa cca gtg atc agc gct      1467
144 Val Ala Ala Val Asp Met Ala Arg Val Arg Glu Pro Val Ile Ser Ala
145 430          435          440          445
147 gta gag cag act gct cag agg aca acc acg act gct gtg cac atc caa      1515
148 Val Glu Gln Thr Ala Gln Arg Thr Thr Thr Thr Ala Val His Ile Gln
149          450          455          460
151 cct gct caa gaa cag gta aga aag gaa gcg gag aag act gct gta act      1563
152 Pro Ala Gln Glu Gln Val Arg Lys Glu Ala Glu Lys Thr Ala Val Thr
153      465          470          475
155 aag gta gta gtg gcc gcc gat aaa gcc aag gaa caa gaa tta aaa tca      1611
156 Lys Val Val Val Ala Ala Asp Lys Ala Lys Glu Gln Glu Leu Lys Ser
157      480          485          490
159 aga acc aaa gaa ata att acc aca aag caa gag cag atg cac gta act      1659
160 Arg Thr Lys Glu Ile Ile Thr Thr Lys Gln Glu Gln Met His Val Thr
161      495          500          505
163 cat gag cag ata aga aaa gaa act gaa aaa aca ttt gta cca aag gta      1707
164 His Glu Gln Ile Arg Lys Glu Thr Glu Lys Thr Phe Val Pro Lys Val
165 510          515          520          525
167 gta att tcc gca gct aaa gcc aaa gaa caa gaa act aga att tct gaa      1755
168 Val Ile Ser Ala Ala Lys Ala Lys Glu Gln Glu Thr Arg Ile Ser Glu
169          530          535          540
171 gaa att act aag aaa cag aaa caa gta act caa gaa gca ata atg aag      1803
172 Glu Ile Thr Lys Lys Gln Lys Gln Val Thr Gln Glu Ala Ile Met Lys
173      545          550          555
175 gaa act agg aaa aca gtt gta cct aaa gtc ata gtt gcc aca ccc aaa      1851
176 Glu Thr Arg Lys Thr Val Val Pro Lys Val Ile Val Ala Thr Pro Lys
177      560          565          570
179 gtc aaa gaa caa gat tta gta tca aga ggt aga gaa ggc att act acc      1899
180 Val Lys Glu Gln Asp Leu Val Ser Arg Gly Arg Glu Gly Ile Thr Thr
181      575          580          585
183 aaa aga gaa caa gtg caa ata act cag gag aag atg aga aag gaa gcc      1947
184 Lys Arg Glu Gln Val Gln Ile Thr Gln Glu Lys Met Arg Lys Glu Ala
185 590          595          600          605
187 gag aaa act gcc ttg tct aca ata gca gtt gct act gct aaa gcc aaa      1995
188 Glu Lys Thr Ala Leu Ser Thr Ile Ala Val Ala Thr Ala Lys Ala Lys
189          610          615          620
191 gaa caa gaa aca ata ctg aga act aga gaa act atg gct act aga caa      2043
192 Glu Gln Glu Thr Ile Leu Arg Thr Arg Glu Thr Met Ala Thr Arg Gln
193      625          630          635
195 gaa caa atc caa gtt acc cat gga aag gtg gac gtt gga aaa aag gct      2091
196 Glu Gln Ile Gln Val Thr His Gly Lys Val Asp Val Gly Lys Lys Ala
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199 gaa gct gta gca aca gtt gtt gct gca gta gac cag gcc cga gtc aga      2139
200 Glu Ala Val Ala Thr Val Val Ala Ala Val Asp Gln Ala Arg Val Arg

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205	670 675 680 685			
207	act ttg gag tac gga tat aag gaa cgc att tcc gcc gca aag gta gct	2235		
208	Thr Leu Glu Tyr Gly Tyr Lys Glu Arg Ile Ser Ala Ala Lys Val Ala			
209	690 695 700			
211	gag cct ccc caa cgt cca gcc tca gaa ccc cac gtt gtc cct aaa gca	2283		
212	Glu Pro Pro Gln Arg Pro Ala Ser Glu Pro His Val Val Pro Lys Ala			
213	705 710 715			
215	gtc aag cct aga gta atc cag gct cct tct gag act cat atc aaa act	2331		
216	Val Lys Pro Arg Val Ile Gln Ala Pro Ser Glu Thr His Ile Lys Thr			
217	720 725 730			
219	act gat caa aag gga atg cac ata tca tca cag atc aag aaa act aca	2379		
220	Thr Asp Gln Lys Gly Met His Ile Ser Ser Gln Ile Lys Lys Thr Thr			
221	735 740 745			
223	gat cta aca acg gaa aga tta gtc cat gtg gat aaa cgc ccc cgc aca	2427		
224	Asp Leu Thr Thr Glu Arg Leu Val His Val Asp Lys Arg Pro Arg Thr			
225	750 755 760 765			
227	gct agc cct cac ttt act gtt tca aaa att tct gtt cct aag aca gaa	2475		
228	Ala Ser Pro His Phe Thr Val Ser Lys Ile Ser Val Pro Lys Thr Glu			
229	770 775 780			
231	cat gga tat gag gca tca ata gcc ggt agt gct att gcc aca tta caa	2523		
232	His Gly Tyr Glu Ala Ser Ile Ala Gly Ser Ala Ile Ala Thr Leu Gln			
233	785 790 795			
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237	800 805 810			
239	aag gct cct act gtg aag ccc agt gag act aga gta agg gca gag ccc	2619		
240	Lys Ala Pro Thr Val Lys Pro Ser Glu Thr Arg Val Arg Ala Glu Pro			
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243	aca ccc ttg cca cag ttc ccc ttc gct gac aca cca gat act tac aag	2667		
244	Thr Pro Leu Pro Gln Phe Pro Phe Ala Asp Thr Pro Asp Thr Tyr Lys			
245	830 835 840 845			
247	agt gaa gct ggc gtt gag gtg aaa aag gaa gta ggg gtg agc atc act	2715		
248	Ser Glu Ala Gly Val Glu Val Lys Lys Glu Val Gly Val Ser Ile Thr			
249	850 855 860			
251	ggc acc acc gtc cgt gaa gag cgc ttt gaa gta ctg cac gga cgc gaa	2763		
252	Gly Thr Thr Val Arg Glu Glu Arg Phe Glu Val Leu His Gly Arg Glu			
253	865 870 875			
255	gcc aag gta aca gaa aca gca aga gta cca gca cct gtt gaa att cct	2811		
256	Ala Lys Val Thr Glu Thr Ala Arg Val Pro Ala Pro Val Glu Ile Pro			
257	880 885 890			
259	gtt act cca cca act ttg gtc tcg ggc tta aaa aat gtg act gtc ata	2859		
260	Val Thr Pro Pro Thr Leu Val Ser Gly Leu Lys Asn Val Thr Val Ile			
261	895 900 905			
263	gaa ggt gaa tct gtc acc ttg gag tgc cac atc tct gga tac cca tcc	2907		
264	Glu Gly Glu Ser Val Thr Leu Glu Cys His Ile Ser Gly Tyr Pro Ser			
265	910 915 920 925			

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276	Glu	Ala	Phe	Ala	Glu	Asp	Ser	Gly	Arg	Phe	Thr	Cys	Ser	Ala	Val	Asn	
277			960					965						970			
279	gag	gct	gga	acc	gtc	agc	aca	tcc	tgc	tat	ctg	gct	gtg	cag	gtg	tca	3099
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292	Thr	Ser	Leu	Thr	Glu	Glu	Gln	Ala	Gly	Pro	Gly	Glu	Pro	Ala	Ala		
293				1025						1030					1035		
295	cct	tac	ttt	att	aca	aaa	cca	gtg	gtc	cag	aaa	ctg	gtg	gaa	ggg		3282
296	Pro	Tyr	Phe	Ile	Thr	Lys	Pro	Val	Val	Gln	Lys	Leu	Val	Glu	Gly		
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299	ggg	agc	gtg	gtg	ttt	gga	tgc	caa	gtt	ggc	ggc	aac	cca	aag	ccc		3327
300	Gly	Ser	Val	Val	Phe	Gly	Cys	Gln	Val	Gly	Gly	Asn	Pro	Lys	Pro		
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304	His	Val	Tyr	Trp	Lys	Lys	Ser	Gly	Val	Pro	Leu	Thr	Thr	Gly	Tyr		
305				1070						1075					1080		
307	aga	tac	aaa	gtg	agt	tac	aac	aaa	caa	acc	ggg	gaa	tgc	aag	ctg		3417
308	Arg	Tyr	Lys	Val	Ser	Tyr	Asn	Lys	Gln	Thr	Gly	Glu	Cys	Lys	Leu		
309				1085						1090					1095		
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319	ctt	gaa	gaa	gct	gat	tat	gag	tta	ctg	atg	aag	tcc	cag	caa	gaa		3552
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